

introduction of organized screening programme. **CONCLUSIONS:** The introduction of organized cervical screening programme resulted in a 4.2% increase in screening rate in the target age group of women aged 45–64 years. The effect of organized cervical screening on screening rate (attendance) was very low. In order to reduce cervical cancer mortality, screening rate (attendance) must be increased.

**PCN53**

**AGE-GROUP SPECIFIC COVERAGE OF THE HUNGARIAN ORGANIZED NATIONWIDE CERVICAL CANCER SCREENING PROGRAMME**

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**OBJECTIVES:** Organized nationwide screening programme for cervical cancer was introduced in Hungary in 2003. Women between the ages 25–65 are invited by a personal letter and a 3 years screening interval has been applied. The aim of this study is to analyse the three year screening rate (attendance or coverage) of the organized programme according to the age-group of target population. **METHODS:** The data derive from the financial database of the National Health Insurance Fund Administration (OEP) of Hungary covering the period of 2000–2002 and 2003–2005. We calculated the three-year screening rate for 2003–2005 according to the age-group of women. Screening is defined with cytological examination of Papanicolaou smear and includes all smears taken either within or outside of the organized programme. **RESULTS:** The three-year screening rate of women aged 25–64 years increased from 48, 45% in 2000–2002 without organized screening programme to 52, 65% in 2003–2005 following the introduction of organized screening programme. The three-year screening was the following in 2003–2005 according the age-groups: 25–29 years: 64, 24%; 30–34 years: 66%; 35–39 years: 60, 89%; 40–44 years: 55, 34%; 45–49 years: 50, 44%; 50–54 years: 49, 23%; 55–59 years: 39, 74%; 60–64 years: 31, 80%. **CONCLUSIONS:** After the introduction of organized cervical screening programme we found the highest screening rate in the age-group 30–34 years followed by a gradually decreasing screening rates in the higher age-groups. In order to achieve the expected mortality decline from cervical cancer, the screening rate (attendance) of women 40–64 should be increased.

**PCN54**

**ESTIMATING THE CLINICAL BENEFITS OF HPV-16/18 VACCINATION: CHALLENGES OF MODELING PREDICTED CASES OF CERVICAL CANCER IN POLAND AND MEXICO, TWO COUNTRIES WITH DIFFERING DEGREES OF CERVICAL DISEASE AND POPULATION STABILITY**

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**OBJECTIVES:** In modeling studies, choosing the epidemiological data sources to best represent the future clinical situation can be a complex issue. Here we compare two methods, a cohort approach and a cross-sectional approach, to determine the number of cervical cancer cases and mortalities expected to occur, both with and without HPV-16/18 vaccination in two countries having diverse risk factors for HPV infection and progression to cervical cancer. **METHODS:** Using a previously developed Monte Carlo Discrete Event model that uses population data to estimate the expected age-specific number of HPV infections, cervical cancer cases and deaths, we examined the

challenges of using cross-sectional epidemiological data vs. following a cohort of women hypothetically over their lifetime. The model estimated the cancer cases and mortality avoided in the presence of vaccination (base-case: 100% vaccine uptake; no waning of protection; 95.1% lifetime efficacy against HPV 16/18). **RESULTS:** The number of cervical cancer cases predicted using the cohort approach were 4584 in Poland and 37,935 in Mexico, whereas the number of cervical cancer cases predicted using the cross-sectional approach were 4358 in Poland and 11,059 in Mexico. Following vaccination in each country, the number of predicted cervical cancer cases averted would differ, depending on which method was used, between 3201 (cohort) and 3043 (cross-sectional) in Poland, and between 22,452 (cohort) and 6545 (cross-sectional) in Mexico. **CONCLUSION:** In modeling the natural history of HPV infection and cervical cancer, one must consider whether the number of cervical cancer cases is expected to remain stable (in line with current population epidemiology and risk factors for HPV infection and development of cervical cancer) in light of expected changes over time in risk factors for the disease, including sexual behaviour, population demographics and screening programs. In addition, all model assumptions and limitations should be clearly stated.

**PCN55**

**LONG TERM CLINICAL EFFECT OF AN HPV-VACCINE FOR THE PREVENTION OF CERVICAL CANCER IN FRANCE IN RELATION TO AGE OF VACCINATION: RESULTS FROM A MARKOV MODEL**

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**OBJECTIVE:** A Markov model simulating the long term prevention effects against cervical cancer (CC) of an HPV-vaccine has been calibrated for France. With this model we particularly assess the difference in impact of a 20 year HPV vaccination campaign of girls when starting vaccination with a different age-cohort. **METHODS:** The Markov model was built in Microsoft<sup>®</sup> Excel software. It replicates the natural history of HPV infection to CC over lifetime of a particular age-cohort of girls. The model simulates the effect of adding vaccination to the current screening program in terms of number of CC cases and CC deaths avoided. All transition probabilities of the natural history of HPV-infection to CC and the screening patterns were obtained from literature review, expert opinion and official French statistics. Screening coverage is maintained constant over time in the model (~60% of the French women screened every 3 years from the age of 25 to 60). Two base-case scenarios (starting vaccination with different age-groups (11 to 13 versus 15 to 17-year-old + a catch up to the age of 25-year-old) were compared with 100% vaccine coverage on 1st year at starting age + each year thereafter over a period of 20 years. Extensive sensitivity analysis was performed on vaccine coverage, HPV-prevalence, vaccine efficacy. **RESULTS:** With 100% vaccine coverage the model predicts a 76% reduction in CC cases (122,441 cases avoided over lifetime) and the same reduction in CC mortality (39,422 deaths avoided) when starting the vaccination at the age of 11–13. With a vaccination at the age of 15–17 the reduction is reduced to 68%. **CONCLUSIONS:** In both scenarios a substantial reduction in cancer cases and mortality due to vaccination will occur while keeping the current screening strategy. However, early vaccination will lead to a higher public health impact.